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the last mentioned reaction. The condensation of *o*-xylene bromide with benzene by means of titanium tetrachloride resulted in the formation of *o*-dibenzylbenzene, neither anthracene nor diphenylmethane being isolated. The use of ferric chloride catalyst gave a mixture of *o*-dibenzylbenzene and diphenylmethane, while the latter hydrocarbon was a sole product in the reaction with stannic chloride. Boron trifluoride was found to be inactive in this reaction.

9,10 endo-o/Xylylene-9,10-dihydroanthracene. Keiiti Sisido, Yoko Udo and Hitosi Nozaki. *J. Org. Chem.*, **26**, 584 (1961).

Cyclopropanes. XI. Solvent effect in partial asymmetric synthesis. Yuzo Inouye, Shuji Inamasu, Minoru Ohno, Toshio Sugita and H. M. Walborsky. *J. Am. Chem. Soc.*, **83**, 2962 (1961).—Potassium *t*-butoxide-catalyzed Michael-type condensation of (–)-menthyl chloracetate with ethyl acrylate afforded, after saponification of the condensation product, (–)-trans-cyclopropane-1,2-dicarboxylic acid in non-polar solvents such as toluene, benzene, ether, *n*-octane, decalin and cyclohexane, whereas in polar solvents such as dimethylformamide, dimethylsulfoxide, hexamethylphosphortriamide, monoglyme and nitobenzene, the same reaction gave the enantiomeric (+)-trans-cyclopropane-1,2-dicarboxylic acid. (See also, this Bulletin, **39**, 415 (1961).)

Blätteralkohol. IX. Eine einfache Synthese und Konfiguration des Blätteraldehyds. Akikazu Hatanaka und Minoru Ohno. *Agr. Biol. Chem.*, **25**, 7 (1961).—Blätteraldehyd wurde durch die einfachste, ergiebigste Synthese dargestellt. Demnach wurde es aufgeklärt, daß die Konfiguration des natürlichen Blätteraldehyds trans-Form ist.

Biochemistry

Studies on the cellulose decomposing organisms. I. Isolation of bacteria from soil and onion. Masayuki Ikemiya, Juichiro Yagi and Takaharu Osumi. *Hakko Kogaku Zasshi*, **39**, 148 (1961), in Japanese.—Two strains of cellulose decomposing bacteria were isolated. T-2 strain isolated from soil appears to be closely related to *Cellulomonas fimi* (McBeth et Scale), although difference is observed in gelatine liquefaction. T-4 strain isolated from onion has close resemblance to *Cellulomonas uda* (Kellerman), but the former produces gas very scantily from carbohydrates if any. The strains attack filter paper readily, while do cotton and saw dust very slowly.

Studies on the cellulose decomposing organisms. II. Isolation of bacteria from soil. Masayuki Ikemiya, Juichiro Yagi and Takaharu Osumi. *Hakko Kogaku Zasshi*, **39**, 281 (1961), in Japanese.—Two strains, I-1 and I-3 were isolated from soil in Osaka, and the former was presumed to belong to *Cellvibrio*, while the latter was found to resemble *Cellvibrio vulgaris* Stapp and Bortels. They attacked cellophane and filter paper readily, while did cotton and wood saw dust very slowly.

Studies on the cellulose decomposing organisms. III. The influence of various factors on the cellulose decomposition by the strains T-2 and T-4. Masayuki Ikemiya, Juichiro Yagi and Takaharu Osumi. *Hakko Kogaku Zasshi*, **39**, 332 (1961), in Japanese.—Investigation was carried out as to the effect of various factors (compositions of culture media, especially of inorganic salts, temperature and pH) upon the digestion of cellulose by the strain T-2 (*Cellulomonas fimi*-like) and T-4 (*Cellulomonas folia*-like). McBeth's medium was found to be most suitable for cultivation. The strains had an optimum temperature in the range of 30° to 35° and an optimum pH between 6.0 and 6.5 for fermentation as well as growth initiation. The optimum amounts of inorganic salts, CaCO₃, K₂HPO₄ and MgSO₄, lay between 0.1 and 0.2%. Calcium ion was found to be an important component of medium effective for growth and fermentation of the strains employed.

Studies on the cellulose decomposing organisms. IV. Factors affecting the formation of cellulase. Masayuki Ikemiya, Juichiro Yagi and Takaharu Osumi. *Hakko Kogaku Zasshi*, **39**, 586 (1961), in Japanese.—Each component of the synthetic basal medium, McBeth's, has been examined to determine the factors affecting the formation of cellulase by the strains, T-2 and T-4, isolated by the authors. The followings are the results obtained. (1) The strains are able to utilize various sources of nitrogen. Ammonium sulfate and peptone, respectively, as inorganic and organic sources, are more suitable than the others for producing cellulase in the medium, and their optimal concentrations in the medium are about 1 %. Glycine and asparagine are also excellent sources of nitrogen. (2) Cellulose (filter paper) and cellobiose are good carbon sources in producing cellulase. Filter paper is readily digested, while cotton and saw dust are done very slowly by the strains. Soluble starch and glucose are good sources for growth of the strains, though the production of cellulase becomes less. The less the concentration of cellulose is, the more of cellulose is digested when cellulose concentration in the medium is in the range from 0.05 to 4.0 %. (3) As to the effects of metallic salts in the medium, it is remarkable that molybdate exhibits stimulatory effect on the digestion of cellulose in the medium.

The inhibitory effect of synthetic detergents on enzymes. II. Action of detergents upon Taka-amylase. Masayuki Ikemiya, Juichiro Yagi, Hiroshi Inoue and Takaharu Osumi. *Hakko Kogaku Zasshi*, **39**, 208 (1961), in Japanese.—Employing pure preparation of Taka-amylase A (TAA) and of Taka-amylase B (TAB) obtained by the methods, respectively, of Akabori and Okazaki, the action of synthetic detergents upon Taka-amylases was investigated. As detergents, SDS (sodium dodecyl sulfate), an anionic detergent, and OSVAN (alkyl dimethyl benzyl ammonium chloride), a cationic detergent, were used. The results obtained were; (1) TAB was less sensitive than TAA to the inhibiting action of these detergents. (2) TAA was markedly inhibited by SDS when pH of the solution was below 4.0. (3) When TAA solution was heated at pH 3 and 40° C for 15 minutes in the presence of 1.2×0.001 M SDS (final conc.), the enzyme was completely inactivated, but TAB was not inactivated at least by the same treatment. (4) TAA treated

whit the procedure mentioned above showed new ultraviolet absorption spectrum and the properties of completely denatured one.

New γ -glutamyl peptides in garlic. Tomoji Suzuki, Michiyasu Sugii and Toshio Kakimoto. *Chem. Pharm. Bull.*, (Tokyo), **9**, 77 (1961).—See, this Bulletin, **39**, 415 (1961).

Isolation of (–) S-allyl-L-cysteine from garlic. Tomoji Suzuki, Michiyasu Sugii, Toshio Kakimoto and Nobuo Tsuboi. *Chem. Pharm. Bull.*, (Tokyo), **9**, 251 (1961).—See, this Bulletin, **39**, 416 (1961).

Studies on the glyoxylate reductase and glycollate oxidizing enzyme systems.
1. Enzymic oxidation of glycollate and lactate by flavoproteins of moulds. Tatsurokuro Tochikura, Akira Kamimura and Hideo Katagiri. *Bull. Inst. Chem. Res., Kyoto Univ.*, **39**, 57 (1961).

Pharmacological studies of GB-105 (N-phenyl-N-acetylglycine dimethylamide) and GB-302 (N-[p-ethoxyphenyl]-N-acetylglycine dimethylamide), in special reference to comparative studies with acetanilide and phenacetin. Hajime Fujimura and Katsuya Ohata. *Nippon Yakurigaku Zasshi*, **57**, 435 (1961), in Japanese.—See, this Bulletin, **40**, 193 (1962).

Studies on pharmacological action of 2-anilinoacetamide derivatives. Hajime Fujimura, Katsuya Ohata, Hideaki Hikita, Akira Nomura, Suetaka Shimomura and Hisamitsu Nagasawa. *Yakugaku Zasshi*, **81**, 659 (1961), in Japanese.—See, this Bulletin, **40**, 193 (1962).

Pharmacological studies on diphenylalkylamine derivatives. 1. Comparative studies of the actions of the optical isomers of 1,2-diphenyl-1-dimethylaminoethane hydrochloride. Hajime Fujimura and Kiyohisa Kawai. *Bull. Inst. Chem. Res., Kyoto Univ.*, **39**, 67 (1961).

Pharmacological studies on diphenylalkylamine derivatives. 2. On the actions of 1-1, 2-diphenyl-1-dimethylaminoethane hydrochloride (SPA). Hajime Fujimura, Kiyohisa Kawai, Katsuya Ohata and Shoji Shibata. *Bull. Inst. Chem. Res., Kyoto Univ.*, **39**, 78 (1961).